Book Reviews.

THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES. DESIGNED FOR THE USE OF PRACTITIONERS OF MEDICINE AND OF STUDENTS OF MEDICINE AND PSYCHOLOGY.. By Lewellyn F. Barker, M.D., Associate Professor of Anatomy in the Johns Hopkins University, and Assistant Resident Pathologist to the Johns Hopkins' Hospital. With two colored plates and 676 illustrations in the text. New York: D. Appleton & Co., 1899.

ANATOMIE DU SYSTÈME NERVEUX DE L'HOMME. Par H. van Gehuchten, Professeur ordinaire à la Faculté de Médicine, Directeur de l' Institut Vésale. Troisième edition, premieur volume, etc. Louvain: 1900.

The books of Barker and of van Gehuchten reached the reviewer's hands at about the same time. A comparison of the two was almost inevitable. Both of them were written by men now well known to the scientific world, men who have done considerable original work and who are most anxious to present the anatomy of the central nervous system in its newest light. Both authors have given great prominence to the modern neurone doctrine (no longer a theory, as van Gehuchten protests), with this difference, that the Belgian author has seen fit to describe the gross anatomy of the central nervous system according to the old and commonly received plan, whereas Dr. Barker has cut all bridges behind him and has started out upon the boldest attempt yet made to construct an anatomy of the central nervous system upon the basis of the "constituent neurones."* While it may safely be said that the plan adopted by van Gehuchten is the easier one for those to follow whose knowledge of brain anatomy is based upon studies made years ago, Dr. Barker's book is truly remarkable for the enormous amount of special and detailed researches which he has embodied in its pages, and for the lucid manner in which he has discussed the conclusions reached by recent investigators. Both Barker and van Gehuchten are firm adherents of the neurone theory, as most of us may indeed be said to be to a more or less marked degree, though some feel that the neurone doctrine has not altogether passed beyond the stage of theory, and that there are certain anatomical and physiological laws which cannot be satisfactorily explained in accordance with it. Van Gehuchten accuses the opponents of the neurone doctrine, notably Apáthy, Bethe, Held and Nissl, of delighting to bring forth arguments against it, and of being somewhat over-zealous in speaking of the "mortal blow" which they have delivered at this theory. But the defenders of that doctrine (the neuronists!) seem to be no less ardent and hot-headed in their attempt to defend the theory at every point, and for the present it would appear that the burden of proof rests with them. It cannot be claimed that either van Gehuchten or Barker is convincing in his refutation of the results reached by Apáthy and Held. It may not be amiss to state in this connection that teachers of clinical neurology have not been overwhelmed by the neurone theory, as anatomists and physiologists appear to have been. The attempt to apply the theory to the elucidation of clinical types has not been remarkably successful, except possibly with regard to the origin of tabes dorsalis. It is more than likely that the theory will have to be modified in some details before it can be raised to the dignity of a doctrine. Meanwhile it is to be regarded as a helpful working hypothesis.

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*Neurone is the correct term, according to Gildersleeve and Barker.

In his remarkable monograph Dr. Barker has erected a veritable monument to this neurone theory. Should the theory fall at any time, the monument will prove a noteworthy tomb. In its outward appearance the American treatise strikes one by its entire lack of resemblance to previous works on anatomy. Only a few of the old-time illustrations are left, and were it not for the introduction of certain, now familiar, tables regarding the spinal functions, and of charts illustrating segmental representation in the cord, one would find very little to remind one of former text-books on anatomy. We cannot speak in terms of adequate praise of Dr. Barker's efforts to make the book thoroughly original. We believe, however, that if more attention had been given to the general gross anatomy of the central nervous system, the book would be more easily appreciated, notably by the large majority of practitioners for whom it appears to have been designed. With all due respect to the author and the practitioners, we ask where are the practitioners who have the time or inclination to read such books? Practitioners who consult a work of this kind would also wish not only to get the latest data regarding a single theory, but would desire, for instance, to get at the broad facts regarding the structure of the brain and spinal cord. Let us suppose that a physician were anxious to acquire the latest information regarding the sensory tract. He will find the information he wants in Section VI of Dr. Barker's work, and distributed therein in over 450 pages. He will find details which he cannot get from any other one book that has ever been published, but he will have considerable difficulty, unless he be almost as able an investigator as Dr. Barker himself, to form an adequate conception of the exact paths by which the sensory impulses travel from the skin or the special sense organs to the cortex. If a student of architecture wished to learn the fundamental principles of housebuilding he would probably not acquire them from a book devoted entirely to the system of planning, riveting and fastening the iron girders now in use in a modern building. The student of brain architecture, it seems to us, would experience very much the same difficulty in trying to form a conception of the "architectonics" of the central nervous system by a study of the "constituent neurones" and by chapters on the "grouping and chaining together of neurones." The facts, and the latest facts, are all there and are collated in masterful fashion; but one or two short sections, such as Edinger introduced in his book, on the general course of the chief cerebro-spinal tracts, would have added very materially to the value and usefulness of the work.

Dr. Barker's treatise is a splendid monograph on the histological structure of the brain and spinal cord. It will necessarily be a source of pride to all of us that such a work should have been published in this country, and if any error has been made in the construction, it is, in the tremendous importance that has been attached to a single doctrine to the exclusion of so many other fruitful theories and facts which have been gathered by the many able brain anatomists of the second half of the nineteenth century. The book is interestingly written, is profusely illustrated and should be in the hands of every working neurologist. The general practitioner who is able to enjoy it and to profit by it may well be considered to be above the average.

Of van Gehuchten's book we need merely say that the third edition is an elaboration of the earlier ones, with an introduction of a very detailed account of the recent theories regarding the histological structure of the central nervous system. It is remarkable for its terseness and for the care with which contending theories and investigations have been considered. His opinion regarding the neurone theory he sums up by stating that the doctrine remains established, in spite of the assaults which have been made upon it from various sides. He thinks that one should be extremely careful and should view with a great deal of scepticism the opinion of the various authors concerning the existence of anastomoses. We must admit, he says, that the "réseau intracellulaire" described by Apáthy exists in reality. But to his mind the only fact which proves the correctness of the neurone doctrine is this, that when the axone is interrupted at any point of its course Wallerian degeneration sets in, affecting the peripheral end. This Wallerian degeneration and the subsequent atrophy in the cell body and in the central end of the axone stopped precisely at the point where the method of Golgi and Ehrlich have shown the limits of the neurone to be. If there were in reality the anastomoses which others maintain, why should this degeneration and atrophy not affect the neighboring nervous elements? The argument may be forcible enough, but it does not take us very much beyond the old theory that the cell body exerted a nutrient influence over the peripheral fibers directly connected with it. The natural inference from all this is that the neurone theory is not a finality; it leaves much to be explained regarding the structure and functions of the central nervous system.

B. S.

MISCELLANY.

The next annual meeting of the American Medico-Psychological Association will be held in Richmond, Va., May 1, 2, 3 and 4, 1900. The secretary of the association is Dr. C. B. Burr, Flint, Mich.

The meeting of the International Congress of Medical Electrology and Radiology will be held in Paris, from the 27th of July to the 1st of August, 1900. All inquiries for further information should be addressed to Prof. E. Doumer, General Secretary, 57 Rue Nicolas-Leblanc, Lille.

The tenth annual meeting of the American Electro-Therapeutic Association will be held in New York city, on Tuesday, Wednesday and Thursday, Sept. 25, 26 and 27, 1900.

The officers of the Association are: Dr. Walter H. White, President; Dr. D. Percy Hickling, 1st Vice-Pres.; Dr. Charles O. Files, 2d Vice-Pres.; Dr. George E. Bill, Secretary; Dr. R. J. Nunn, Treasurer. Executive Council: Dr. Robert Newman, Dr. G. Benton Massey, Dr. William J. Morton, Dr. A. D. Rockwell, Dr. Charles R. Dickson, Dr. Frederic Schavoir.